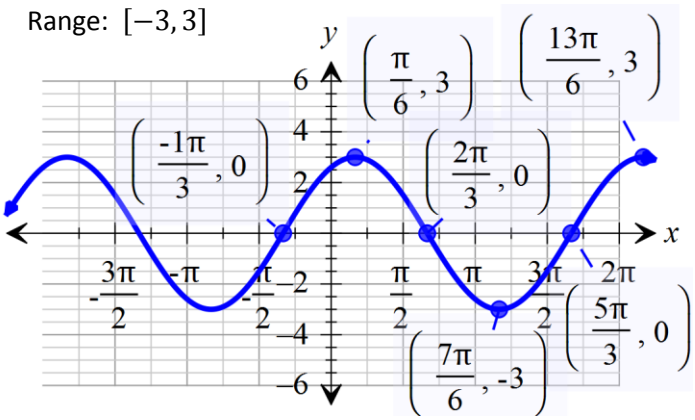
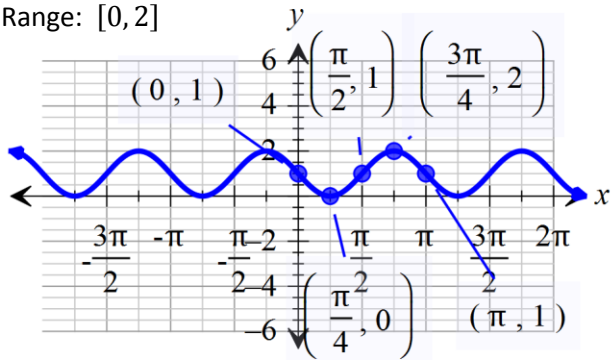
3.1-3.7 test review answers

1. $\frac{4\pi}{15}$
2. $-\frac{7\pi}{10}$
3. $\frac{41\pi}{300}$
4. $390°$
5. $-450°$
6. $137.5°$
7. 45.38 cm
8. 10.24 in
9. 161.61 square feet
10. 6.4 square meters
11. $455°, -265°$
12. $115°, -605°$
13. $\frac{7\pi}{6}, -\frac{17\pi}{6}$
14. $\frac{23\pi}{4}, \frac{7\pi}{4}, -\frac{\pi}{4}$
15. 3016 feet per minute
16. $\sin\alpha = \frac{5\sqrt{74}}{74}$ $\cos\alpha = -\frac{7\sqrt{74}}{74}$ $\tan\alpha = -\frac{5}{7}$ $\sec\alpha = -\frac{\sqrt{74}}{7}$ $\csc\alpha = \frac{\sqrt{74}}{5}$ $\cot\alpha = -\frac{7}{5}$
17. $\sin\alpha = -\frac{3\sqrt{13}}{13}$ $\cos\alpha = \frac{2\sqrt{13}}{13}$ $\tan\alpha = -\frac{3}{2}$ $\sec\alpha = \frac{\sqrt{13}}{2}$ $\csc\alpha = -\frac{\sqrt{13}}{3}$ $\cot\alpha = -\frac{2}{3}$
18. $82.8°$
19. $35.3°$
20. $72.5°$
21. $21.7°$
22. $15.2°$
23. $63.5°$
24. $b \approx 15.2,\ \angle A \approx 40.5°,\ \angle B \approx 49.5°$
25. $a \approx 6.6,\ b \approx 13.5,\ \angle B \approx 64°$
26. ≈ 5.6
27. $\approx 38°$
28. $\approx 175\ feet$
29. 0
30. 0
31. $\sqrt{3}$
32. $\sqrt{2}$
33. $\frac{2\sqrt{3}}{3}$
34. 0
35. $-\frac{\sqrt{3}}{2}$
36. $-\frac{1}{2}$
37. -1
38. $-\frac{2\sqrt{3}}{3}$
39. -2
40. $-\sqrt{3}$
41. $45°$
42. $0°$
43. $0°$
44. $60°$
45. $30°$
46. $90°$
47. $45°$
48. $30°$
49. $60°$
50. $45°$
51. $90°$
52. $\sin A = \frac{14}{19}$ $\cos A = \frac{\sqrt{165}}{19}$ $\tan A = \frac{14\sqrt{165}}{165}$ $\sec A = \frac{19\sqrt{165}}{165}$ $\csc A = \frac{19}{14}$ $\cot A = \frac{\sqrt{165}}{14}$
53. Amplitude: 3, Period: 2π
Frequency: $\frac{1}{2\pi}$, Phase shift: right $\frac{\pi}{6}$
Range: $[-3, 3]$

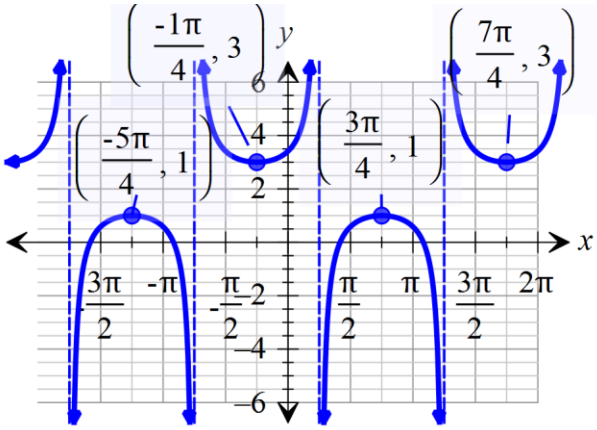


54. Amplitude: 1, Period: π
Frequency: $\frac{1}{\pi}$, Phase shift: none
Range: $[0, 2]$

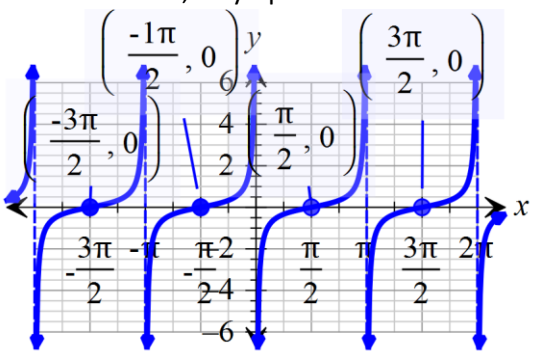


55. Period: 2π; Asy: $x = \frac{\pi}{4} + \pi k$;

Range: $(-\infty, 1] \cup [3, \infty)$



56. Period: π, Asymptotes: $x = \pi k$



57. $y = 3\cot\left(x + \frac{\pi}{4}\right) + 2$

58. $y = -\csc\left(x - \frac{\pi}{6}\right) - 1$

59. $\left(-\frac{\pi}{6}, 3\right)$

60. 6π